

Atty. Dkt. No. 054804/0101

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

plicant:

Ladlow et al.

Title:

PARALLEL REACTION STATION WITH MAGNETIC STIRRING

Appl. No.:

09/509,147

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May 25, 2000

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BOARD OF PATENT APPEALS AND INTERFERENCES U.S. PATENT AND TRADEMARK OFFICE

In re Application of: Ladlow et al

Serial No.:

09/509,147

Filed:

May 25, 2000

Group:

1743

For:

PARALLEL REACTION

STATION WITH

MAGNETIC STIRRING

Examiner:

Brian R. Gordon

Mail Stop Appeal Brief-Patents Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

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Charlie Schreck

APPELLANT'S BRIEF

Real Party in Interest

Radleys Discovery Technologies Limited is the real party in interest by virtue of an assignment of the above referenced patent application from the inventors Mark Ladlow and Adrian Mitchell. The assignment of the application was recorded in the United States Patent and Trademark Office at Reel 010844, Frame 0905.

Related Appeals and Interferences

No other appeals or interferences are known to the Appellant, the inventor, or the Appellant's legal representatives which would directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

Status of Claims

Claims 1 and 3-20 are pending in the above-referenced patent application. The rejection of claims 1 and 3-20 is therefore being appealed.

Status of Amendments

No amendment was submitted after the Final Office Action of January 8, 2001.

Summary of Invention

The present invention relates to a device capable of accommodating a plurality of reaction vessels. The device is specifically adapted so that when placed in a magnetic field, such as that generated by a laboratory magnetic stirrer, any reaction vessel accommodated by the device is in an effective position for stirring with respect to the magnetic field. The device is seated upon a magnetic stirrer with the top of the magnetic stirrer disposed within a recess of the device. The reaction vessels are located along the periphery of the recess. Equal magnetic forces apply to all of the reaction vessels simultaneously; thereby, allowing uniform stirring in each of the reaction vessels.

Issues

The first issue presented in this appeal is whether the above referenced application is objectionable under 37 C.F.R. § 1.75(c) and 35 U.S.C. § 132.

The second issue presented in this appeal is whether the invention of claims 1, 3-20 is improper under 35 U.S.C. § 112.

The third issue presented in this appeal is whether the invention as claimed in claims 1, 3-5 and 8 is anticipated under 35 U.S.C. § 102(b) by U.S. Patent No. 3,594,129 issued to Jones.

The fourth issue presented in this appeal is whether the invention as claimed in claims 1, 3-5, 7-9 and 11, is obvious over U.S. Patent No. 3,356,346 issued to Landsberger, in view of Jones.

The fifth issue presented in this appeal is whether the invention as claimed in claims 6, 10, and 12-20, is obvious over Landsberger, in view of Jones and further in view of PCT Patent App. Ser. No. 97/09353 in the name of Baker.

Grouping of Claims

Claims 1, 3-5, 7-9 and 11 comprise a first subgroup of claims that will be discussed together.

Claims 6, 10 and 12-20 comprise a second subgroup of claims that will be discussed together.

DISCUSSION

I. The Examiner Has Not Shown Support for the Objections.¹

The Examiner has objected to claim 3 under 37 C.F.R. §1.75(c) as failing to further limit the subject matter of the previous claim. Claim 3 is directed to a "guide means", which the Examiner claims the guide means comprises the central recess formed by the rim. However, this is a mischaracterization of the Appellants' invention. The guide means comprise both the rim and the recess, as stated in the third paragraph of the Summary of the Invention. Thus, the guide means further limits the scope of claim one, which does not include the rim as a limitation.

¹ The Examiner also objected to the use of "A" in the dependent claims and the capitalization of "In" in the specification. As these items are not relevant to the appeal, Appellants will correct these upon reversal of the rejections.

The Examiner has objected to the amendment filed October 28, 2002 under 35 U.S.C. §132. The Examiner has claimed that the amendment introduced new matter; namely the phrase in the claims "wherein the adapter block is structurally removable from the laboratory magnetic stirrer without removing a fastener." The Examiner has incorrectly stated that the Appellants may not rely on the disclosure of the Background of the Invention to support an amendment. However, the Background of the Invention is considered part of the specification. See MPEP § 608.01(a); In re Bose Corp., 64 F.3d 673 (Fed. Cir. 1995). As is clearly described at page 1 of the originally filed application, one of the problems with carrying out parallel syntheses in the laboratory is that a majority of existing laboratory magnetic stirrers are only designed to accommodate and efficiently stir the contents of one reaction vessel at a time. The last paragraph of the specification describes an alternative embodiment of the invention wherein "the device is permanently fixed to a laboratory magnetic or hotplate stirrer." Furthermore, the original figures as filed depict a preferred form of the device as seated on the magnetic stirrer without the use of a fastener. Thus, one of ordinary skill in the art would understand that the present invention also relates to a preferred form in which the device is removably attached to the magnetic or hotplate stirrer.

The Examiner further objected to the claim limitation, "a base portion of each vessel may be held at substantially the level of the recess." The original figures as filed clearly depict the base of the vessels located substantially at the level of the recess. A person of ordinary skill in the art would regard the figures as teaching that the vessels may be located substantially at the level of the recess. Thus, Appellants submit that no new matter was added by the above referenced claim limitation.

Thus, the objections to the claims and specification should be overturned.

II. The Examiner Has Not Shown Prima Facie Non-compliance with 35 U.S.C. § 112.

The Examiner rejected claims 1-20 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that Appellants regard as the invention.² The Examiner has stated that claim 4 is unclear because the sockets are the fixing means, and as claimed it appears as if the sockets are an element of the fixing means. However, this is incorrect on two fronts. First, the Examiner has a duty under MPEP §2181 to interpret each claim limitation as broadly as possible. Second, the Brief Summary of the Invention, paragraph 2 indicates that the sockets are a preferred fixing means. However, the fixing means is not limited to the sockets. Thus, claim 4 clearly is adding the limitation that the fixing means are comprised of the sockets.

The Examiner also rejected claims 12 and 13 under 35 U.S.C. § 112. The Examiner stated that it "appears as if applicant's [sic] intention is [to] claim a combination of a magnetic stirrer [and] a condenser connected to the adapter block fitted on the magnetic stirrer." Claims 12 and 13 clearly set forth that the magnetic stirrer is further comprised of a hotplate and a condenser unit operatively connected to the magnetic stirrer and adapter block.

The Examiner also rejected claims 17 and 19 as redundant in light of claims 1 and 11.

In making this rejection, the Examiner stated that the "holders" of claims 17 and 19 are equivalent to the "sockets" of claims 1 and 11.³ However, claim one does not include the term sockets. Therefore, claim 17 cannot be duplicative of claim 1.

Thus, the rejections under 35 U.S.C. § 112 should be overturned.

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² Upon reversal of the rejections, Appellants will correct the lack of antecedent basis in claims 1 and 11.

³ Upon reversal of the rejections, Appellants will cancel claim 19 as duplicative.

III. The Examiner Has Not Shown Prima Facie Anticipation

The Examiner has not made an adequate showing that claims 1, 3-5, and 18 are anticipated by U.S. Patent No. 3,594,129 to Jones. More particularly, the Examiner has failed to cite any reference, including Jones, that discloses a device capable of accommodating a plurality of reaction vessels so that the plurality of reaction vessels is positioned for stirring with respect to a magnetic field.

For a prior art reference to anticipate the claim of a patent, the reference must disclose each and every limitation of a claimed invention. *See Apple Computer, Inc. v. Articulate Systems, Inc.*, 234 F.3d 14, 20 (Fed. Cir. 2000). To make a *prima facie* case of anticipation, the Examiner must show that a reference contains a disclosure which is specific as to every element of the claims at issue. *See, e.g., Ex parte Jochen Wagner and Helmut Wiss*, 2001 WL 1048474 (B. Pat. App & Interf. 2001), *In re Wilder*, 57 C.C.P.A. 1314, 1319, 429 F.2d 447, 451 (C.C.P.A. 1970). In this case, Jones does not disclose every limitation of the Appellants' invention.

Jones teaches an apparatus especially suited for use in chemical analysis. Jones discloses a plurality of open ended reaction tubes carried by a turntable with the lower ends of the tubes slidably and sealingly engaging the contact surface of a platform. Jones teaches that a plurality of reaction tubes at the periphery allows for filling, flushing, draining, and re-using of the reaction vessels. The turntable disclosed by Jones is rotatable.

Unlike Jones, the present invention is directed to a device capable of accommodating a plurality of reaction vessels so that the plurality of reaction vessels is positioned for stirring with respect to a magnetic field. Claim 1 is representative of this particular subgroup:

"A device comprising an adapter block for seating on a laboratory magnetic stirrer and having a recess in the base thereof for receiving an upper portion of the stirrer, the adapter block containing fixing means for holding a plurality of reaction vessels, wherein when the adapter block is co-operatively positioned on a magnetic stirrer within a magnetic field generated by the magnetic stirrer, each and every position for holding a reaction vessel is effectively located for stirring with respect to the magnetic field, with the center of each vessel distributed around the recess outside the periphery of the recess, and wherein the adapter block is structurally removable from the laboratory magnetic stirrer without removing a fastener."

The Examiner has asserted that all of the features in these claims are shown and described in the Jones reference. In fact, there are multiple elements described in claim 1 that are entirely missing from the device of Jones. The present invention is directed to the development of an adapter block that is separate from the laboratory magnetic stirrer, yet can be used with and is inherently adaptable with multiple stirrers that have been in use in the marketplace for several years, such as those described on page 2 of the application. The Jones reference does not describe, teach, or suggest such an inherently removable adapter block that is structurally distinct from the remainder of the laboratory unit. In particular, the Examiner is directed to column 3, lines 10-15, of the Jones reference, where the "turntable" is described as being rotatably mounted upon an upstanding hollow shaft, and wherein the hollow shaft is threaded at the upper end so that it can be securely fastened to the turntable. Nowhere in the Jones reference is it taught that the "turntable" is intended to be easily removable without having to remove a fastener and can be adapted for use on multiple stirrup magnetic stirrers, as is specifically described in the present application.

Additionally, Jones does not have a recess for receiving an upper portion of the stirrer.

Appellant submits that the Examiner has misconstrued the ring of Jones as being equivalent to

Appellants' guide means. However, the guide means ensures the adapter block is correctly located within the magnetic field, whereas the ring of Jones serves to locate the vessels. The Examiner also relied on the figures of Jones for the recess. In fact, as shown in the figures and discussed above, the turntable (what the Examiner has equated with the adapter block) is seated on a drive disk and fastened via a hollow shaft; it is not adapted to fit on a magnetic stirrer.

For all of the above reasons, the rejection of claims 1, 3-5, and 18 should be overturned.

IV. The Examiner Has Not Shown *Prima Facie* Obviousness over U.S. Pat. No. 3,356,346 in view of U.S. Pat. No. 3,594,129.

The Examiner has not made an adequate showing that claims 1, 3-5, 7-9, and 11 are obvious over U.S. Pat. No. 3,356,346 to Landsberger in view of U.S. Patent No. 3,594,129, issued to Jones. More particularly, the Examiner has failed to cite any reference that discloses a device capable of accommodating a plurality of reaction vessels so that the plurality of reaction vessels is positioned for stirring with respect to a magnetic field, nor has the Examiner demonstrated any motivation to combine the teachings of Landsberger and Jones.

In *In re Rijckaert*, 9 F.3d 1531, 1532, (Fed. Cir. 1993), the Federal Circuit outlined the burden on the PTO as follows:

In rejecting claims under 35 U.S.C. 103, the examiner bears the initial burden of presenting a prima facie case of obviousness. In re Oetiker, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992). Only if that burden is met, does the burden of coming forward with evidence or argument shift to the applicant. Id. "A prima facie case of obviousness is established when the teachings from the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art." In re Bell, 991 F.2d 781, 782, 26 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1993) (quoting In re Rinehart, 531 F.2d 1048, 1051, 189 U.S.P.Q. 143, 147 (CCPA 1976)). If the examiner fails to establish a prima facie case, the rejection is improper and will be overturned. In re Fine, 837 F.2d 1071, 1074, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988).

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some reasonable suggestion or motivation to modify the prior art reference or to combine reference teachings. Second, there must be a reasonable expectation of success of achieving the desired goals. Finally, the prior art references when combined must fairly and reasonably teach <u>all the claim limitations</u>. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on the Appellants' disclosure. *In re Vaeck*, 947 F.2d 488 (Fed. Cir. 1991).

The Federal Circuit stated that the PTO can satisfy its burden of establishing a *prima* facie case of obviousness only by showing some objective teaching in the prior art, or that knowledge generally available to one of ordinary skill in the art, would lead that individual to combine the relevant teachings of the references. *In re Fritch*, 972 F.2d 1260 (Fed. Cir. 1992). However, one cannot use hindsight reconstruction to pick and choose among disclosures in the prior art to create the claimed invention. *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988).

The Examiner has rejected claims 1-5, 7-9, and 11 under 35 U.S.C. § 103(a), as being unpatentable over U.S. Patent No. 3,356,346 issued to Landsberger, in view of the Jones reference. The Examiner has asserted that the Landsberger reference discloses all of the features of these claims with the exception of the adapter block being chemically resistant and the reaction vessels being located around the periphery of the recess.

Notwithstanding the Examiner's assertion, Appellants respectfully traverse the Examiner's rejections. In particular, it would not have been obvious to one of ordinary skill in the art to modify the device described in the Landsberger reference such that the individual vessels are located on the outside of the recess. It is important to recognize that the invention solves significant problems by having the reaction vessels arranged outside the periphery of the

magnetic stirrer. Their arrangement results in a number of important solutions to problems and provides benefits that are not taught, disclosed, or even suggested in either of the prior art references. By having the individual vessels located outside of the recess within the adapter block, the user solves the problem of ensuring that equal magnetic forces apply to all of the reaction vessels simultaneously. In particular, by having each individual vessel spaced equidistant from the center of the magnetic source, the user is able to ensure that a substantially equal magnetic force is applied to each vessel. The application of an equal magnetic force on each vessel thus solves the problem of how to provide identical stirring to each reaction vessel. This feature was obviously not recognized in the Landsberger reference, as the individual reaction vessels are spaced at various different distances from the center of the "adapter block". The Jones reference on the other hand, does not even discuss the concept of magnetic stirring. It is therefore not reasonable to suggest that a person skilled in the art would recognize that the problem of how to achieve efficient and uniform stirring even existed by the teachings of the Jones reference. For these reasons, it would not have been obvious to one skilled in the art to incorporate the position of the vessels in the Jones reference with the device described in the Landsberger reference.

Second, by having the base of the reaction vessels located outside the periphery of the recess, the reaction vessels can be located at a relatively low height compared to the prior art system, even to the point of being in line with the magnetic rotor. This feature promotes highly efficient and effective stirring. This is not taught, disclosed or suggested in either of the prior art references. In the Landsberger reference, all of the vessels are located well above the magnetic rotor, while the Jones reference does not disclose a magnetic stirring apparatus at all.

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For these reasons, it would not have been obvious to one of ordinary skill in the art to combine the Landsberger and Jones references in the manner asserted by the Examiner.

For all of the above reasons, the rejection of claims 1, 3-5, 7-9 and 11 should be overturned.

V. <u>The Examiner Has Not Shown Prima Facie Obviousness over U.S. Pat. No. 3,356,346 in view of U.S. Pat. No. and further in view of U.S. Pat. App. Ser. No. 97/09353</u>

The Examiner has not made an adequate showing that claims 6, 10, and 12-20 under 35 U.S.C. § 103(a), as being unpatentable over the Landsberger reference, in view of the Jones reference, and in further view of Application No. 97/09353, in the name of Baker. The Examiner has asserted that the use of a gas manifold and/or a condenser is taught by the Baker reference and that it would have been obvious to incorporate the heating and cooling system of the Baker reference with the Landsberger and Jones references. More particularly, the Examiner has failed to cite any reference that discloses a device capable of accommodating a plurality of reaction vessels so that the plurality of reaction vessels is positioned for stirring with respect to a magnetic field, nor has the Examiner demonstrated any motivation to combine the teachings of Landsberger with Jones and Baker.

Appellants reiterate that it would not have been obvious to combine the Landsberger and Jones references for the reasons described above. In particular, it would not have been obvious to locate the plurality of reaction vessels on the periphery of the adapter block outside of the recess thereof, as the problem of uneven stirring qualities is not even suggested by the Landsberger or Jones references, nor is the advantage of more efficient uniform stirring taught, disclosed or suggested by the two references. This feature is also not taught, disclosed or suggested by the Baker reference. Furthermore, claims 18 and 20 specifically require that

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the base portion of each of the vessels be capable of being located at substantially the level of the recess. This feature is not taught, disclosed or suggested in any of the three references cited by the Examiner. In fact, the Landsberger reference teaches away from this arrangement, since a number of the reaction vessels are located directly above where the recess would be located. For all these reasons, Appellants submit that claims 6, 10 and 12-20 are patentable over the prior art cited by the Examiner.

For all of the above reasons, the rejection of claims 6, 10, and 12-20 should be overturned.

CONCLUSION

The Examiner objected to the specification and claims for informalities, but the Examiner has not established that such the specification or claims contain anything improper. The term "guide means" is distinct from the term recess. As the specification teaches, the guide means comprises the recess and the rim. In addition, no new matter has been added to the application through the various amendments. Support for each element of claims 1 and 3-20 can be found in the application as filed.

The Examiner rejected claims 1-20 under 35 U.S.C. § 112, but the Examiner has not established that the claims satisfy the requirements of § 112. The sockets are but one possible functional equivalent of the fixing means; thus the addition of sockets as a dependent claim element is proper. Furthermore, claims 12 and 13 are properly directed to a combination comprising the adapter block, condenser, and magnetic stirrer all operatively connected. Finally, claim 1 does not include the term "sockets"; thus claim 17's use of the term holders is not duplicative.

The Examiner rejected claims 1, 3-5, and 18 under 35 U.S.C. § 102(b), but the Examiner has not established a *prima facie* case for anticipation. U.S. Patent No. 3,594,129 issued to Jones does not disclose, teach, or even suggest a device capable of accommodating a plurality of reaction vessels so that the plurality of reaction vessels is positioned for stirring with respect to a magnetic field. The prior art does not teach the use of a recess to position the adapter block on the magnetic stirrer, nor does the prior art teach the positioning of the vessels around the outer perimeter of this recess so that the vessels are substantially at the same level as the magnetic stirrer.

Similarly, the Examiner has failed in his burden in finding a *prima facie* case of obviousness of claims 1, 3-5, 7-9 and 11 are over U.S. Pat. No. 3,356,346 to Landsberger. in view of U.S. Patent No. 3,594,129, issued to Jones. The cited prior art, either alone or in combination, fails to anticipate a device capable of accommodating a plurality of reaction vessels so that the plurality of reaction vessels is positioned for stirring with respect to a magnetic field. Furthermore, there is no motivation or suggestion to combine the two cited prior art references. Finally, the problem, its solution, and the benefits identified in the present application of providing each reaction vessel in an optimum location for stirring are absent from the prior art teaching, further diminishing any motivation for combining the references absent the use of hindsight.

Furthermore, the Examiner has failed in his burden in finding a *prima facie* case of obviousness of claims 6, 10, and 12-20 under 35 U.S.C. § 103(a), as being unpatentable over the Landsberger reference, in view of the Jones reference, and in further view of Application No. 97/09353, in the name of Baker. The cited prior art, either alone or in combination, fails to

disclose a device capable of accommodating a plurality of reaction vessels so that the plurality of reaction vessels is positioned for stirring with respect to a magnetic field and including a condenser unit connected thereto. Furthermore, there is no motivation or suggestion to combine the two cited prior art references.

The final rejections of claims 1 and 3-20 should therefore be reversed, and these claims allowed.

Pursuant to 37 C.F.R. 1.17(c), a check in the amount of \$160.00 is enclosed to cover the filing fee for a brief in support of appeal for a small entity. Any deficiency may be deducted from Deposit Account 06-1450. This Appeal Brief is submitted in triplicate.

Respectfully submitted,

Dated: (lug. 11, 2003)

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APPENDIX

- 1. A device comprising an adapter block for seating on a laboratory magnetic stirrer and having a recess in the base thereof for receiving an upper portion of the stirrer, the adapter block containing fixing means for holding a plurality of reaction vessels, wherein when the adapter block is co-operatively positioned on a magnetic stirrer within a magnetic field generated by the magnetic stirrer, each and every position for holding a reaction vessel is effectively located for stirring with respect to the magnetic field, with the center of each vessel distributed around the recess outside the periphery of the recess, and wherein the adapter block is structurally removable from the laboratory magnetic stirrer without removing a fastener.
- 3. A device according to claim 1, wherein the adapter block incorporates guide means to ensure that each and every position for holding a reaction vessel is effectively located for equivalent stirring.
- 4. A device according to claim 1 wherein the fixing means comprise a plurality of sockets each designed to securely accommodate a reaction vessel.
- 5. A device according to claim 4 wherein the sockets are arranged about the perimeter of the adapter block.
- 6. A device according to claim 1 further comprising a condenser unit operatively connected to the adapter block.
- 7. A device according to claim 6 wherein the adapter block is made of heat conducting material.
- 8. A device according to claim 1 wherein the adapter block is circular in shape.
- 9. A device according to claim 1 wherein the adapter block is made of chemically resistant material.
- 10. A device according to claim 1 further comprising a gas manifold operatively connected to the adapter block.
- 11. A magnetic stirrer fitted with an adapter block wherein the adapter block includes a recess in the base thereof for receiving an upper portion of the stirrer in which a magnetic field is generated, and includes fixing means for holding a plurality of reaction vessels with their centers distributed around the recess outside the periphery of the recess, and wherein the adapter block is positioned within the magnetic field generated by the magnetic stirrer such that each and every socket is effectively positioned for stirring with respect to the magnetic field.

12. A magnetic stirrer according to claim 11 further comprising a hotplate operatively connected to the magnetic stirrer and a condenser unit operatively connected to the adapter block.

- 13. A magnetic stirrer fitted with an adapter block wherein the adapter block contains fixing means for holding a plurality of reaction vessels, the adapter block positioned within the magnetic field generated by the magnetic stirrer such that each and every socket of the fixing means is effectively positioned for stirring with respect to a magnetic field generated by the magnetic stirrer, and further comprising a condenser unit operatively connected to the adapter block.
- 14. A device according to claim 13, wherein the adapter block includes a recess in the base thereof for receiving an upper portion of the stirrer.
- 15. A device according to claim 14, wherein the centers of the reaction vessels are distributed around the recess outside the periphery of the recess.
- 16. A device according to claim 15, wherein a base portion of each vessel may be held substantially at the level of the recess.
- 17. A device according to claim 1, wherein the fixing means comprises a plurality of holders.
- 18. A device according to claim 1, wherein a base portion of each vessel may be held substantially at the level of the recess.
- 19. A magnetic stirrer according to claim 11, wherein the fixing means comprises a plurality of holders.
- 20. A device according to claim 11, wherein a base portion of each vessel may be held substantially at the level of the recess.